<table>
<thead>
<tr>
<th>DAY</th>
<th>TIME</th>
<th>Grand Ballroom (13F)</th>
<th>Rose Room 1</th>
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<tbody>
<tr>
<td></td>
<td>8:00 – 9:30</td>
<td>Registration</td>
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|      | 8:50 – 9:00 | Welcome from Conference Chair  
  Chair: Professor Jeffrey J. P. Tsai  
  President, Asia University  
  Grand Ballroom                      |             |
|      | 9:00 – 9:50 | **Keynote (1)**  
  Professor Scott L. Delp  
  Stanford University, USA  
  Chair: Professor Jean-Claude Latombe  
  Stanford University, USA  
  Grand Ballroom                          |             |
|      | 9:50-10:40 | **Keynote (2)**  
  Professor Yusuke Nakamura  
  University of Chicago, USA  
  Chair: Professor Hideo Matsuda  
  (Osaka University, Japan)  
  Grand Ballroom                        |             |
| Oct. 29 Monday | 10:40-10:55 | Coffee Break          |             |
|      | 10:55-12:15 | S1.1 Biological sequence analysis  
  Chair: Professor TBD  
  Grand Ballroom                       | S1.2 Biomedical concepts and measurements  
  Chair: TBD  
  Rose Room 1                             |
|      | 12:15-13:15 | Lunch [The Plum Blossom Room (13F) NVIDIA, Taiwan] |             |
|      | 13:15-14:35 | S1.3 Sequence alignment and high-performance sequence analysis  
  Chair: TBD  
  Grand Ballroom                           | S1.4 Recent advancements in medical engineering  
  Chair: TBD  
  Rose Room 1                                 |
|      | 14:35-15:55 | S1.5 Biological network inference and analysis I  
  Chair: TBD  
  Grand Ballroom                          | S1.6 Medical and physiological signal analysis I  
  Chair: TBD  
  Rose Room 1                                     |
|      | 15:55-16:10 | Coffee Break          |             |
|      | 16:10-17:30 | S1.7 Workshop: Cancer bioinformatics and intelligent medicine  
  Chair: Professor Tatsuya Akutsu  
  (Kyoto University, Japan)  
  Grand Ballroom                       | S1.8 Biological sensor and data analysis  
  Chair: TBD  
  Rose Room 1                                 |
|      | 17:30-18:30 | Break                |             |
|      | 18:30 – 21:00 | Reception  
  Chair: Professor Jeffrey J. P. Tsai  
  President, Asia University  
  Grand Ballroom                       |             |
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<td><strong>9:00 – 9:50</strong></td>
<td><strong>Keynote (3)</strong></td>
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<td>Professor Pui-Yan Kwok</td>
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<td>Academia Sinica, Taiwan</td>
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<td><strong>Chair:</strong> TBD</td>
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<td><strong>9:50-10:40</strong></td>
<td><strong>Keynote (4)</strong></td>
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<td>Professor Lydia E. Kavraki</td>
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<td>Rice University, USA</td>
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<td><strong>Chair:</strong> Professor Tatsuya Akutsu (Kyoto University, Japan)</td>
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<td><strong>10:40-10:55</strong></td>
<td><strong>Coffee Break</strong></td>
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<td><strong>10:55-11:55</strong></td>
<td><strong>S2.1 Cancer bioinformatics</strong></td>
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<td><strong>Chair:</strong> Professor Y-h Taguchi (Chou University, Japan)</td>
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<td><strong>11:55-13:00</strong></td>
<td><strong>Lunch [The Plum Blossom Room (13F)]</strong></td>
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<td><strong>13:00-13:50</strong></td>
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<td>Professor Antonios G. Mikos</td>
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<td>Rice University, USA</td>
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<td><strong>Chair:</strong> TBD</td>
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<td><strong>13:50-15:50</strong></td>
<td><strong>S2.3 Tutorial:</strong></td>
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<td><strong>Professor Nikolaos G Bourbakis</strong></td>
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<td><strong>15:50-16:05</strong></td>
<td><strong>Coffee Break</strong></td>
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<td><strong>16:05-17:25</strong></td>
<td><strong>S2.5 Cancer and medical bioinformatics</strong></td>
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<td><strong>Chair:</strong> Professor Hsueh-Ting Chu (Asia University, Taiwan)</td>
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<td><strong>17:25 – 18:30</strong></td>
<td><strong>Banquet</strong></td>
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<td>Professor Jan-Gowth Chang</td>
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<td>(China Medical University, Taiwan)</td>
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<td><strong>Chair:</strong> Professor Jeffrey J. P. Tsai President, Asia University, Taiwan</td>
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<td><strong>Oct. 31 Wednesday</strong></td>
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<td><strong>9:00 – 9:50</strong></td>
<td><strong>Keynote (7)</strong></td>
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<td>Professor Wen-Hsiung Li</td>
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<td><strong>Chair:</strong> Professor Chi-Ren Shyu University of Missouri, USA</td>
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<td>9:50-10:50</td>
<td>S3.1 Special paper session - Biomedical Big Data</td>
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<td>11:05-12:05</td>
<td>S3.3: Biological network inference and analysis II</td>
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<td>Chair: Professor Wen-Ling Chan (Asia University, Taiwan) Grand Ballroom</td>
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<td>12:05 – 13:00</td>
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S1.1: Biological sequence analysis
DegSampler: Collapsed Gibbs sampler for detecting E3 binding sites
Osamu Maruyama and Fumiko Matsuzaki
Constructing the Relationship Tree of All Viruses via Whole Genomic Sequences
Jing-Doo Wang and Yi-Chun Wang
Stratification of Human Gut Microbiome and Building a SVM-Based Classifier
His-Chung Kung, Jeffrey J. P. Tsai, Rong-Ming Chen and Rouh-Mei Hu
Protein Secondary Structural Class Prediction Using Effective Feature Modeling and Machine Learning Techniques
Sanjay Bankapur and Nagamma Patil

S1.2: Biomedical concepts and measurements
Model Predictive and Proportional Integral Control of Blood Clotting Speed Using Warfarin When Data Are Missing
Emma D. Wilson, Quentin Clairon, Robin Henderson and C. James Taylor
Stochastic Non-minimal State Space Control with Application to Automated Drug Delivery
Emma D. Wilson, Quentin Clairon and C. James Taylor
Adjacent Network for Semantic Segmentation of Liver CT Scans
Indriani Puspitasari Astono, James S. Welsh and Stephan Chalup

S1.3: Sequence alignment and high-performance sequence analysis
Detection of Errors in Multi-Genome Alignments Using Machine Learning Approaches
Jaspal Singh, Ramchalam Kinattinkara Ramakrishnan and Mathieu Blanchette
A High-Performance Sequence Analysis Engine for Shotgun Metagenomics through GPU Acceleration
Ying-Feng Hsu, Morito Matsuoka, Nicolas Jung, Yuki Matsumoto, Daisuke Motooka and Shotaro Nakamura
RLALIGN: A Reinforcement Learning Approach for Multiple Sequence Alignment
Ramchalam Kinattinkara Ramakrishnan, Jaspal Singh and Mathieu Blanchette
An Efficient GPU-based de Bruijn Graph Construction Algorithm for Micro-Assembly
Shanshan Ren, Nauman Ahmed, Koen Bertels and Zaid Al-Ars

S1.4: Recent advancement in medical engineering
Low Cost Micro-Droplet Formation Chip with a Hand-Operated Suction Syringe
Gamal Abdel Nasser, Ahmed M.R. Fath El-Bab, Hisham Mohamed and Ahmed Abouelsoud
Design of a Portable Radial Piston Pneumatic Compressor for Wearable Robot System
Ryeonho Kang, Ho Seon Choi and Yoon Su Baek
Study on the Channel Characteristics of Auxiliary Medical Devices Based on MDAPSK Technology
Xueping Li, Yuan Yang and Ningmei Yu
SAR ADC with DAC and SC Low-Pass Filter for Positron Emission Tomography Application
Wen Cheng Lai

S1.5: Biological network inference and analysis I
Inference of Genetic Networks Using Random Forests: Use of Different Weights for Time-series and Static Gene Expression Data
Shuhei Kimura, Masato Tokuhisa and Mariko Okada-Hatakeyama
An Intensive Search for Higher-order Gene-gene Interactions by Improving Deep Learning Model
Suneetha Uppu and Aneesh Krishna
Interpretable Prediction of Vascular Diseases from Electronic Health Records via Deep Attention Networks
Seunghyun Park, You Jin Kim, Jeong Whun Kim, Jin Joo Park, Borim Ryu and Jung-Woo Ha
Pathway Analysis of Marker Genes for Leukemia Cancer Using Enhanced Genetic Algorithm-Neural Network (enGANN)
S1.6: Medical and physiological signal analysis I
Biomedical Data Acquisition and Processing to Recognize Emotions for Affective Learning*
Armin Gruenewald, David Kroeber, Jonas Poehler, Rainer Brueck, Frederic Li,
Kathrin Schniebel, Artur Piet, Julian Littau, Marcin Grzegorzek, Henrik Kampling and
Bjoern Niehaves
KnowPain: Automated System for Detecting Pain in Neonates from Videos*
Rajkumar Theagarajnan, Bhanu Bir, Danilyn Angeles and Federico Pala

Brain Structural and Functional Representation Based on the Local Global Graph Methodology
Spyridon Manganas, Nikolaos Bourbakis and Konstantinos Michalopoulos
Comparison of Region of Interest Segmentation Methods for Video-based Heart Rate Measurements
Peixi Li, Yannick Benezeth, Keisuke Nakamura, Randy Gomez, Chao Li and Fan Yang

S1.7: Workshop: Cancer bioinformatics and intelligent medicine
Deep Learning with Evolutionary and Genomic Profiles for Identifying Cancer Subtypes
Chun-Yu Lin, Peiying Ruan, Ruiming Li, Jinn-Moon Yang, Simon See and Tatsuya Akutsu
Convolutional Neural Network Approach to Lung Cancer Classification Integrating Protein
Interaction Network and Gene Expression Profiles
Teppei Matsubara, Tomoshiro Ochiai, Morihiro Hayashida, Tatsuya Akutsu and Jose Nacher
Identification of the PCA28 gene signature as a predictor in prostate cancer
Jung-Yu Lee, Si-Yu Lin, Yi-Hsuan Chuang, Sing-Han Huang, Yu-Yao Tseng, Chun-Yu Lin, Hung-Jung Wang and Jinn-Moon Yang
Detection of Fusion Genes from Human Breast Cancer Cell-line RNA-Seq Data Using Shifted Short Read Clustering
Yoshiaki Sota, Shigeto Seno, Hironori Shigeta, Naoki Osato, Masafumi Shimoda,
Shinzaburo Noguchi and Hideo Matsuda

S1.8: Biological sensor and data analysis
Recovering a Chemotopic Feature Space from a Group of Fruit Fly Antenna Chemosensors*
Martin Strauch, Latha Mukunda, Alja Lüdke, C. Giovanni Galizia and Dorit Merhof
Investigating Electrode Sites for Intention Detection During Robot Based Hand Movement Using
EEG-BCI System
Maryam Butt, Golshah Naghdy, Fazel Naghdy, Geoffrey Murray and Haiping Du
Remote Assessment of Gait Deterioration Due to Memory Impairment in Elderly Adults Using
Micro-Doppler Radar
Kenshi Saho, Kazuki Uemura and Michito Matsumoto
Estimating GRF (Ground Reaction Force) and Calibrating CoP (Center of Pressure) of an Insole
Measured by an Low-Cost Sensor with Neural Network
Ho Seon Choi, Myoung-shoon Shim, Chang Hee Lee and Yoon Su Baek

S2.1: Cancer bioinformatics
MVPNets: Multi-Viewing Path Deep Learning Neural Networks for Magnification Invariant
Diagnosis in Breast Cancer*
Padmaja Jonnalagedda, Daniel Schmolze and Bir Bhanu
Tensor Decomposition-based Unsupervised Feature Extraction for Integrated Analysis of TCGA Data
on MicroRNA Expression and Promoter Methylation of Genes in Ovarian Cancer*
Y-H. Taguchi and Ka-Lok Ng
Cancer Screening Using Biomimetic Pattern Recognition with Hyper-Dimensional Structures
Leonila Lagunes and Charles H. Lee
S2.2: Medical image and signal analysis I
Automated Evaluation of Hand Motor Function Recovery by Using Finger Pressure Sensing Device for Home Rehabilitation*
Yuta Furudate, Nanami Onuki, Kaori Chiba, Yuji Ishida and Sadayoshi Mikami
Nonlinear CMOS Image Sensor with SOC Integrated Local Contrast Stretch for Bio-microfluidic Imaging
Nan Lyu, Likang Xu, Ningmei Yu and Hejiu Zhang
Software Defined Radio-Based Testbed for Wireless Body Area Network
Zhiyu Chen, Junchao Wang, Kaining Han and Zeljko Zilic

S2.3 Tutorial: Assistive Research Biotechnologies for People in Need
Professor Nikolaos G Bourbakis

S2.4: Medical signal, sequence detection, DNA barcode
Decision Theory-Based DNA Barcoding Through Quick Response Code Representation*
Cheng-Hong Yang, Kuo-Chuan Wu, Hsueh-Wei Chang and Li-Yeh Chuang
Species Identification using Partial DNA Sequence: A Machine Learning Approach
Tasnim Kabir, Abida Sanjana Shemonti and Atif Hasan Rahman
Psycho-physiological Changes Depend on Differences in the Presentation Ratio of Non-target Stimuli
Hiroaki Yoshikawa and Hiroshi Hagiwara
Quantitative Frailty Assessment Using Activity of Daily Living (ADL)
Yasmeen Naz Panhwar, Fazel Naghdy, David Stirling, Golshah Naghdy and Janette Potter
Novel Parameters for ECG Signal Analysis Irrespective of Patient's Age, Sex and Heart Rate
Salah Hamdi, Asma Ben Abdallah and Mohamed Hedi Bedoui
Using NIRS to detect brain oxyHb changes during short-term memory tasks
Takuya Sasabe and Hiroshi Hagiwara
Improved Multifactor Dimensionality Reduction for Epistasis Detection
Li-Yeh Chuang, Cheng-Hong Yang and Yu-Da Lin

S2.5: Cancer and medical bioinformatics
Identification of Several Core Overexpressed MicroRNAs that Could Predict Survival in Patients with Ovarian Cancer*
Eskezeia Y. Dessie, Ezra B. Wijaya, Chien-Hung Huang, David Agustriawan, Jeffrey J.P. Tsai and Ka-Lok Ng
Quantitative Analysis of EC12 Expression from RNA-seq for Breast Cancer Gene Signatures
Ming-Yi Yen, Hsueh-Ting Chu, Yu-Ching Chen and Jeffrey J. P. Tsai
Identification of Potential Long Non-coding RNA Biomarkers for Breast Cancer Patients with Somatic BRCA1 Mutations from RNA-Seq Datasets
Jia-Hua Cai, Yu-Ching Chen, Hsueh-Ting Chu and Jeffrey J. P. Tsai
The Potential Dual-target Inhibitors for HER2/HSP90 Proteins from Traditional Chinese Medicine
Jhih-Ying Chen, Chia-Min Chen, Pei-Chun Chang and Jeffrey J.P. Tsai

S2.6: Medical image and signal analysis II
Adjacent Network for Semantic Segmentation of Liver CT Scans*
Indriani Puspitasari Astono, James S. Welsh, Stephan Chalup
Detection of H. pylori Induced Gastric Inflammation by Diffuse Reflectance Analysis*
Alexandre Krebs, Vania Camilo, Eliette Touati, Yannick Benezeth, Valérie Michel, Grégory Jouvion, Fan Yang, Dominique Lamarque and Franck Marzani
Implementation of an Ultrasound Platform for Proposed Photoacoustic Image Reconstruction Algorithm*
Enkhbat Batbayar, Enkhaatar Tumenjargal, Chulgyu Song and Woonchul Ham
Three-Dimensional Segmentation of Mouse Embryonic Stem Cell Nuclei for Quantitative Analysis of Differentiation Activity Using Time-lapse Fluorescence Microscopy Images*
Yuan-Hsiang Chang, Hideo Yokota, Kuniya Abe and Ming-Dar Tsai
S3.1: Special paper session - Biomedical Big Data
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The Amiloride Derivatives Regulate the Alternative Splicing of Apoptotic Gene Transcripts
Chien-Chih Lee, Wen-Hsin Chang, Ting-Yuan Liu, Yu-Chia Chen, Guan-Yu Chen, Yang-Chang Wu and Jan-Gowth Chang
The Role of mRNA Transporter in Human Cancer
Yu-Chia Chen, Chien-Chih Chiu, Han-Lin Chou and Jan-Gowth Chang

S3.2: Biological text mining and biomedical informatics
Stochastic Non-minimal State Space Control with Application to Automated Drug Delivery*
Emma D. Wilson, Quentin Clairon and C. James Taylor
Semantic Relation Extraction for Herb-drug Interactions from the Biomedical Literature Using an Unsupervised Learning Approach
Khang Trinh, Duy Pham and Ly Le
Learning Effective Distributed Representation of Complex Biomedical Concepts
Khai Nguyen and Ryutaro Ichise

S3.3: Biological network inference and analysis II
A Systems Biology Approach to Model Gene-Gene Interaction for Childhood Sarcomas
Dong Ling Tong and Christine Siew Ken Lee
Prediction of Plant-Disease Relations Based on Unani Formulas by Network Analysis
Shaikh Farhad Hossain, Sony Hartono Wijaya, Ming Huang, Irmanida Batubara, Shigehiko Kanaya and Md. Altaf-Ul-Amin
Computational Modeling of the Early Development of Embryonic Leaves in Maize
Charles C.N. Wang, Pei-Chun Chang, Phillip C.Y. Sheu and Jeffrey J.P. Tsai

S3.4 Computational Modeling and sensor in biomedical engineering
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Olzhas Mukhmetov, Dastan Igali, Yong Zhao, Sai Cheong Fok, Soo Lee Teh and Aigerim Mashekova
Computational Modeling of Traumatic Brain Injury Due to Impact on Different Sides of Human Head
Tanu Khanuja and Harikrishnan N. Unni
Sigma-Delta ADC for Image Sensor in Virtual and Augmented Reality Camera to Medical Training
Wen Cheng Lai

* regular paper